



# UNITED STATES PATENT AND TRADEMARK OFFICE

9  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,745	11/14/2002	Nenad Rijavec	BLD920020007	7517
33595	7590	08/22/2005	EXAMINER	
INTERNATIONAL BUSINESS MACHINES CORPORATION 9000 SOUTH RITA ROAD TUCSON, AZ 85744			HUNTSINGER, PETER K	
			ART UNIT	PAPER NUMBER
			2624	

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/065,745	RIJAVEC, NENAD
	Examiner	Art Unit
	Peter K. Huntsinger	2624

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 November 2002 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Objections***

1. Claims 1-5 are objected to because of the following informalities: Claims 1-5 should have "An" inserted before "apparatus comprising". In claims 4 and 5, the phrase "or be printed" should be replaced with "or to be printed".

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390.

Referring to claim 1, Barry et al. disclose an apparatus comprising: a pipeline of elements processing print control data and having: a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port which communicates with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions

related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20). Barry et al. do not disclose expressly a plurality of head drivers. Fujii et al. disclose a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65). Barry et al. and Fujii et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been to allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii et al. with Barry et al. to obtain the invention as specified in claim 1.

Referring to claim 3, Fujii et al. disclose an apparatus according to claim 1 wherein each of said raster image processors converts data from a form communicated as a print data stream to a form to be communicated as data signals to a print head driver (col. 6, lines 60-65).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390 as applied to claim 1 above, and further in view of Venkateswar et al. U.S. Patent 6,532,016.

Referring to claim 2, Barry et al. and Fujii et al. disclose rasterizing images and generating data signals communicated to a print head driver, but do not disclose expressly a raster queue. Venkateswar et al. disclose queuing packaged individual page data to be communicated to said raster image processors and further wherein individual ones of said raster image processors draw from said queued data as processing of data related to an individual page is completed (col. 2, lines 21-28). Barry et al., Fujii et al., and Venkateswar et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Therefore, it would have been obvious to combine Venkateswar et al. with Barry et al. and Fujii et al. to obtain the invention as specified in claim 2.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390 as applied to claim 3 above, and further in view of Hohensee et al. U.S. Patent 5,946,460.

Referring to claim 4, Barry et al. disclose raster image processors but do not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. Hohensee disclose each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60). Barry et al. and Hohensee et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page. Therefore, it would have been obvious to combine Hohensee et al. with Barry et al. to obtain the invention as specified in claim 4.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943, Fujii et al. U.S. Patent 6,315,390, and Hohensee et al. U.S. Patent 5,946,460.

Referring to claim 5, Barry et al. disclose an apparatus comprising: a pipeline of elements processing print control data and having: a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and a sequencer (instruction operator

for job file 114 of Fig. 1a) which has an output port which communicates with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20). Barry et al. do not disclose expressly a plurality of head drivers. Fujii et al. disclose a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65). Barry et al. and Fujii et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Barry et al. do not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. Hohensee disclose each of said raster image processors converts data from a form communicated as a print data stream into a variable number of

portions depending upon whether an individual page is to be blank or be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60). Barry et al. and Hohensee et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page. Therefore, it would have been obvious to combine Hohensee et al. with Barry et al. and Fujii et al. to obtain the invention as specified in claim 5.

7. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943, Fujii et al. U.S. Patent 6,315,390, and Venkateswar et al. U.S. Patent 6,532,016.

Referring to claims 6 and 9, Barry et al. disclose a method comprising the steps of: receiving a print data stream and parsing the stream into local (col. 4, lines 34-38) and global portions (col. 4, lines 26-30); packaging together parsed local and global print stream data portions (col. 5, lines 8-13). Barry et al. do not disclose expressly a raster queue. Venkateswar et al. disclose queuing packaged print stream data portions; and communicating queued packaged print stream data portions to a plurality of raster image processors (col. 2, lines 21-28). Barry et al. and Venkateswar et al. are combinable because they are from the same field of printing systems. At the time of the

invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Barry et al. disclose processing a plurality of communicated packaged print stream data portions in parallel but do not disclose expressly a plurality of head drivers. Fujii et al. disclose generating print head driving data signals; and communicating the generated print head driving data signals to the print heads of a printer (col. 6, lines 60-65). Barry et al. and Fujii et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been to allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii et al. with Barry et al. and Venkateswar et al. to obtain the invention as specified in claims 6 and 9.

Referring to claim 7, Barry et al. disclose a method according to claim 6 wherein said step of packaging print stream data portions comprises packaging portions applicable to individual pages (col. 7, lines 34-36).

Referring to claim 8, Barry et al. disclose a method according to claim 6 wherein said step of processing comprises generating bit map data signals (col. 10, lines 59-60).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PKH



DAVID MOORE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600